THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 20

MAILED

UNITED STATES PATENT AND TRADEMARK OFFICE

MAR 1 9 1996

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

PAT & TM OFFICE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte ROBERT G. LYON, JAMES D. LARSEN and WESLEY A. COX

Appeal No. 95-2769 Application 07/957,697¹

ON BRIEF

Before ABRAMS, FRANKFORT and STAAB, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the decision of the examiner finally rejecting claims 1 through 29, which constitute all of the claims of record in the application.

The appellants' invention is directed to an order picking system, that is, a mechanism for retrieving designated

Application for patent filed October 7, 1992.

goods from storage locations and assembling them. In particular, the appellants' system palletizes combinations of full layers of cases of goods and individual cases of goods. The subject matter before us on appeal is illustrated by reference to claim 1, which reads as follows:

An automated material handling system comprising:

a case storage and delivery system including means for receiving, storing and delivering cases of goods;

a full layer storage, picking and delivery system for storing and delivering full layers of cases of goods;

conveyor means for receiving said cases of goods and said full layers of cases of goods from said case storage and delivery system and from said full layer storage, picking and delivery system;

control means to select cases of goods to be delivered by said case storage and delivery system and layers of cases of goods to be conveyed from said full layer storage, picking and delivering system to said conveyor means; and

a palletizer receiving said cases of goods and said full layers of cases of goods from said conveyor means and placing said cases and said full layer of cases on pallets in selected patterns.

THE REFERENCES

The references relied upon by the examiner to support the final rejection are:

 British Patent (Martin)
 2,107,690
 May
 5, 1983

 European Patent (Tanaka)
 209,116
 Jan. 21, 1987

Additional reference applied by this merits panel of the Board of Patent Appeals and Interferences:

Grace

4,621,745

Nov. 11, 1986

THE REJECTIONS

Claims 10 through 15 and 23 through 29 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellants regard as the invention.

Claims 1 through 29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tanaka in view of Martin.

The rejections are explained in the Examiner's Answer.

The opposing viewpoints of the appellants are set forth in the Brief and the Reply Brief.

OPINION

The examiner has rejected claims 10 through 15 and 23 through 29 as being indefinite under 35 USC § 112, second paragraph, for the eight reasons explained in paragraph 3 on pages 2 through 4 of the final rejection (Paper No.6). Because a patentee has the right to exclude others from making, using and selling the invention covered by the patent (35 USC 154), the public must be apprised of exactly what the patent covers, so that those who would approach the area circumscribed by the claims of a patent may more readily and accurately determine the boundaries of protection involved and evaluate the possibility of

infringement and dominance. It is to this that the second paragraph of 35 USC 112 is directed. See *In re Hammack*, 427 F.2d 1378, 166 USPQ 204 (CCPA 1970).

It is appropriate at this point to make note of the considerable difficulty we encountered in attempting to understand the structure and operation of the invention from the disclosure, which was caused by our inability to navigate the maze of structure shown in the drawings as we read the specification. This also may have contributed to the presence of indefinite language in the claims. There is a striking lack of correspondence between the elements as depicted in the various drawings of the system. The drawings differ from one another to such an extent as not to allow the viewer to gain an understanding of the claimed system that is consistent throughout the pictorial presentation. For example, Figures 2A and 2B fail to denote the feed conveyor 30 for supplying cases of goods to a tower and Figures 1 and 2A fail to denote the feed conveyor 34 for supplying full layers of cases of goods. Also, in Figure 1 it appears that conveyor 35 and conveyor 19 are the same, while Figure 2B shows conveyor 19 distinct from conveyor 35 and Figure 2A does not even show conveyor 35. Moreover, we cannot locate in the drawings reference numeral 23 ("platform," page 13 of the specification), reference numeral 63 ("counter," page 17), or reference numeral 71 ("conveyor," page 18).

We look now to the examiner's rejection under the second paragraph of Section 112. The first problem involves claims 10, 11, 28 and 29, and focuses on the definition of the term "pallets" and the several variations thereof which appear in the claims. The dependency of all of these claims originates in claim 1, which sets forth a palletizer that places "cases and full layers of cases on pallets." A "pallet" is thus introduced into the claims as an object onto which cases and full layers of cases can be placed. Claim 10 recites "means. . . for supplying modified pallets of cases of goods to the palletizer" (lines 3 and 4), followed in line 5 with the statement that the same means adds or strips layers from "said pallets." The first question that arises is what is a "modified pallet" as compared to a "pallet," considering that a "pallet" as initially defined in claim 1 is an object empty of cases of goods and it would appear from a reading of claim 10 in its entirety that a "modified pallet" has goods on it, although no definition of this second term is provided. The second question presented is whether the "pallets" recited in line 5 of claim 10 are the same "pallets" recited in claim 1, or the "modified pallet" previously recited in line 3 of claim 10. These same questions arise with regard to claim 28, which also introduces the term "modified pallets" without antecedent basis. It is magnified in claim 29, which

adds to claim 28 for the first time, without the benefit of antecedent basis, the term "unmodified pallets."

We agree with the examiner that claims 10, 11, 28 and 29 fail to comply with the requirements of the second paragraph of Section 112 for the reasons set forth above, and this rejection is sustained.

The examiner further has taken the position with regard to claim 12 that the phrase "control means to pick up and transport the cases of goods to be discharged from said cell to said conveyor means," which is found in lines 15 and 16 of claim 12, renders the claim indefinite. The reasoning here is that this phrase is unclear because, as disclosed, the control means does not itself pick up and transport cases, rather, it controls a device that performs these functions. While it is true that the language used in the claim to encompass this particular structure might not be the same as that used in the specification, that is not the test for deciding whether a claim is indefinite. The question is whether the metes and bounds of the claim can be determined from the language used in the claim. In this case, it is our view that the disputed claim language, although not identical to that used in the specification, nevertheless describes the structure to be covered by the claim in sufficient clarity. We therefore will not sustain the

rejection of claim 12 on this ground or, it follows, of dependent claim 13, with which the examiner took no other issue.

The examiner also raises another point of indefiniteness with regard to claim 14, regarding the term "modified pallets." Here, however, in contrast to the situation in claims 10 and 11, the difference between "modified pallets" and "pallets" is established. According to the claim, the adding or removing of layers of cases to a "pallet of cases" will result in a "modified pallet". We also do not agree that the "means plus function" language used in claim 14 renders it indefinite in that it is unclear. It is our opinion that the functional language describing the gantry means is clear and that the metes and bounds of the claim can be determined by reading the limitation in light of the specification.

The examiner also has focused upon the use in claim 15 of the phrase "the programmable logic controller," which arises without antecedent basis. We note that "a programmable logic controller" was introduced in claim 2, but that claim is not in the line of claims from which claim 15 depends. We therefore agree with the examiner that the presence of this phrase without antecedent basis constitutes grounds for rendering claim 15 indefinite.

A problem also exists in the line of claims that begins with claim 1 and extends to claims 23 and 25. Claim 1 recites

"conveyor means for receiving said cases of goods and said full layers of goods from said. . .delivery system[s]." This "conveyor means" again is recited in claim 2, wherein the fact that it receives both cases and layers of cases is confirmed. The line of dependency then jumps to claim 20, wherein a case storage and delivery system is recited, and thence to claim 21, which establishes that the case storage and delivery system includes a cell having a tower, with "feed conveyor means feeding cases of goods to each tower" and "discharge conveyor means receiving cases of goods from. . .each tower. " Claim 22 adds to claim 21 a gantry robot in the full layer system "to pick up cases of goods and deliver them to the feed conveyor means," and claim 23 adds to claim 22 a gantry robot "to pick up layers of cases of goods to deliver them to the conveyor means." Claim 25 depends from claim 23 and requires a counter to "count cases of goods discharged from the full layer. . .system to the conveyor means." Thus, while the gantry means of claim 22 delivers cases to the feed conveyor means, the gantry means of claim 23 delivers layers of cases to the conveyor means. This would appear not to be accurate, since claim 1 states that both cases and layers of cases are received by the conveyor means and not by the feed conveyor means.

This is further complicated by the appellants' argument in the Brief that "it seems clear in context that 'the conveyor

means' recited in claims 23 and 25 can only be referring back to the [feed] conveyor means recited in base claim 22" (page 5, lines 2 through 4). From our perspective, an element of confusion arises as this chain of claims progresses. We note in this regard that the conveyor of claims 23 and 25 is required to deliver <u>full layers of cases</u>, and the feed conveyor of claim 22 transfers <u>cases</u> of goods to a tower that, it would appear from the disclosure, does not handle full layers of cases.

For the foregoing reasons, the Section 112 rejection of claims 23 and 25 is sustained along with that of claims 24 and 26, as well as this additional rejection of claims 28 and 29.

Although claim 27 was included in the Section 112 rejections, we find in the final rejection no grounds in support thereof. Such being the case, this rejection is not sustained.

Moving now to the examiner's rejection on the basis of prior art, claims 1 through 29 stand rejected under 35 USC § 103 as being unpatentable over Tanaka in view of Martin.

In evaluating this rejection, our guidance is that in rejecting claims under 35 USC §103, the examiner bears the initial burden of presenting a prima facie case of obviousness.

See In re Rijckaert, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). A prima facie case of obviousness is established when the teachings of the prior art itself would appear to have suggested

the claimed subject matter to one of ordinary skill in the art.

See In re Bell, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976). If the examiner fails to establish a prima facie case of obviousness, the rejection is improper and will be overturned. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

After consideration of the positions and arguments set forth by both the examiner and the appellants, we have concluded that the required prima facie case of obviousness has not been established by the teachings of the two references, and therefore we will not sustain this rejection. Our reasons for this decision follow.

Tanaka discloses a case handling device that uses "depalletizers" L-1, L-2 and L-3 to take individual cases from pallets of cases, and place the individual cases onto conveyors K-1, K-2, K-3. An inlet side stacking crane D then takes the cases from the conveyors and distributes them to an appropriate position on a gravity feed storage rack A. An outlet side stacking crane B unloads cases from the storage rack onto an outlet conveyor in order to fill specific customer orders.

While the Tanaka system is capable of handling different "kinds" of goods (page 14, line 23), the reference clearly does not disclose or teach handling cases of goods and layers of cases of goods nor, in our opinion, is it capable of

doing so. It is our view that one of ordinary skill in the art would have been taught by Tanaka only to pick and handle individual items, which would correspond to the picking of individual cases in the appellants' system. This falls short of meeting the requirements of claim 1, which specifies that there be:

- (1) a case storage and delivery system including means for receiving, storing and delivering cases of goods; and
- (2) a full layer storage, picking and delivery system for storing and delivering full layers of cases of goods.

The examiner contends that the appellants never adequately define what constitutes a "full layer of cases of goods," and therefore interprets this language to mean merely a plurality of cases of goods. The examiner thus, in essence, has stricken from consideration the full layer storage, picking and delivery system recited in the claim. We do not agree with this approach. It is clear to us from the appellants' specification that a "full layer of cases of goods" means that plurality of cases which forms an entire layer of a stored stack or on a pallet (see specification, page 9, lines 16 through 24). The appellants have emphasized this feature throughout the prosecution of this application, and due consideration must be given to this limitation in the claim.

Application 07/957,697

The examiner cited the Martin reference only for its teaching of utilizing a palletizer at the end of a case delivery system to load a pallet. While this is true, we wish to note for the record that this is not the full extent of the teachings that one of ordinary skill in the art would have gleaned from Martin. The Martin system handles full layers of goods 26, delivering the layers from a number of sources to a central location, and then stacking them one upon the other onto a pallet (see page 1 and Figure 2).

In establishing a prima facie case of obviousness under 35 USC §103, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See Ex parte Clapp, 227 USPQ 972 (BPAI 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure. See, for example, Uniroyal, Inc. v. Ridkin-Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). The mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. See In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

The appellants' claim 1 requires not only a first means for handling cases of goods and a second means for handling full layers of cases of goods, but also a control means for selecting the cases and full layers of cases and

a palletizer receiving said cases of goods and said full layers of cases of goods from said conveyor means and placing said cases and said full layers of cases on pallets in selected patterns.

We fail to perceive any teaching, suggestion or incentive which would have led one of ordinary skill in the art to meld the teachings of the two references together in such a fashion as to provide the Tanaka system of handling individual cases with an additional system for handling layers of cases, and for placing the cases and the layers of cases on a pallet in selected patterns. In arriving at this conclusion we note that neither of the references teaches handling other than one specific configuration of article(s), be it cases or layers of cases, much less bringing them together on a single pallet in a selected pattern. As we understand the appellants' system, if one were to require palletization of a total number of cases equal, for example, to three full layers plus two, the claimed system would select the three full layers from one storage area and two individual cases from another, and then palletize them in a selected pattern, such as placing the two cases upon the top layer of a stack of three full layers. In the Tanaka system, a

number of individual cases equal to the total desired would be selected and then palletized in a pattern that might end up being the same as that achieved by the appellants' system, although it was achieved by a system that differs from the claimed structure. The Martin system would be incapable of filling such an order, for it cannot handle anything less than a full layer of cases, and thus could not supply the two individual cases.

A prima facie case of obviousness with regard to the subject matter of claim 1 on the basis of Tanaka and Martin is lacking. The examiner's Section 103 rejection of claim 1 therefore is not sustained, nor is that of claims 2 through 11 and 20 through 29, which depend therefrom.

Although the examiner did not see fit to treat them individually, there are two other independent claims before us, and it is prudent for us to comment on the teachings of these two references with regard to claims 12 and 16. The two claims are directed to a material handling system that comprises a case storage and delivery mechanism but, unlike claim 1, does not include a separate full layer storage, picking and delivery system. Claim 12 recites the feature of

said case storage and delivery system including a cell having a tower with tilting shelves therein to receive cases of goods at a top thereof,

and claim 16 requires

tower sections having pivoting shelves

Both claims also require gantry means for transporting the cases to the top of the tower.

To the extent that the comment the examiner made with regard to the pivoting shelves of claim 3 might have also been intended to apply to the other claims that have the same or similar limitation, the fact is that Tanaka has designated the item labeled "5" as "a goods transfer conveyor (tilt conveyor)" (page 22), and not as a shelf. It therefore is our view, from our study of the two references, that neither Tanaka nor Martin teach the use of the tilting shelves required by claims 12 and 16. Nor do we find in them the pair of mutually facing tower sections with pivoting shelves required by claim 16.

In our opinion the teachings of the references applied by the examiner also fail to establish a prima facie case of obviousness with respect to the subject matter of independent claims 12 and 16. We therefore will not sustain the Section 103 rejection of these two claims or of claims 13 through 15 and 17 through 19, which depend therefrom.

Rejections Under 37 CFR 1.196(b)

Pursuant to our authority under 37 CFR 1.196(b), we make the following new rejections:

Claims 4 through 8, 10, 11, 22 through 26, 28 and 29 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the appellants regard as the invention.

As explained in the appellants' specification, the invention comprises a full layer system storage, picking and delivery system which exclusively handles full layers of cases of goods, and a case storage and delivery system which exclusively handles individual cases of goods. However, claim 4 recites that the "full layer. . .system includes a gantry robot. . .to pick up cases of goods" (emphasis added). A similar situation exists in claim 22. As such, the recitations set forth in these two claims are not supported by the disclosure, which could form the basis for a rejection under the first paragraph of Section 112. The situation becomes more complicated when one considers that the specification discusses a third system called the "gantry inventory replenishment system," which delivers single cases of goods to the feed conveyors. Thus, the subject matter recited in these two claims is not supported by the disclosure.

However, because this subject matter recited is so clearly contra to the objectives of the appellants' invention as well as the description of the invention, it is our conclusion that it is not the appellants' intent to claim it in the manner

presented, and rather than reject the claims under the first paragraph of Section 112 we shall cast the rejection as one of indefiniteness under the second paragraph. See *In re Knowlton*, 500 F.2d 566, 183 USPQ 33 (CCPA 1974). Claims 5 through 8, 10, 11, 23 through 26, 28 and 29 are included in this rejection because they depend from either claim 4 or claim 22.

We further take the liberty of pointing out a few instances where confusion exists in the claims due to inconsistencies in terminology. These should be corrected in the event of further prosecution: In line 4 of claim 13 the term "gantry" is used, while in line 4 of dependent claim 14 "gantry means" is recited. In line 2 of claim 17 the term "feed conveyor means" appears, while in line 2 of dependent claim 19 "feed conveyor" is used. In line 2 of claim 18 the term "discharge conveyor means" is used, while in line 2 of dependent claim 19 this appears as "discharge conveyor."

Claims 16 through 18 are rejected under 35 USC § 102(b) as being anticipated by Grace, which was cited in the appellants' disclosure. Anticipation under 35 USC 102(b) is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of the claimed invention. See *In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994) and *In re Spada*., 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990).

Grace is directed to a mechanized case picker in which cartons are loaded into the top of a tower and then selectively dispensed from the bottom. Using the language of claim 16 as a guide, Grace discloses a cell 20 for use with an automated material handling system that comprises at least one tower with a pair of spaced apart, vertically extending, mutually facing tower sections 21 and 23 (Figure 2). Each of the tower sections has pivoting shelves 40 (Figure 2) on which cases of goods 10 received at the top of the tower are positioned for storage and delivery. A gantry means (unnumbered but shown in part in Figure 1) supplies cases of goods to be stored to the top of the tower. A discharge conveyor 18 receives the selected cases of goods from the bottom of the tower.

Claim 17 adds feed conveyor means at the top of the tower to receive goods from the gantry means and to distribute the goods to the pivoting shelves. This reads on the horizontal conveyor at the top of the tower (incorrectly labeled with the numeral 10 in Figure 1).

The discharge conveyor required by claim 18 is shown in Figure 1 at the base of the tower (labeled 18).

Claim 19 is rejected under 35 USC § 103 as being unpatentable over Grace in view of Tanaka. As we explained above, Grace discloses all of the subject matter of claim 18. Claim 19 depends from claim 18, and it adds to the former the

requirement that there be "a plurality of towers" receiving goods from the feed conveyor and discharging goods to the discharge conveyor. Tanaka is cited for its teaching of storing a plurality of different cases of goods (F1, F2, F3, F4; Figures 1 and 3) and passing these to a discharge conveyor \underline{C} . It is our view that the use of additional towers would have been obvious for the self-evident advantages thereof, such as to facilitate the storage, handling and dispensing of additional goods.

Claim 12 is rejected under 35 USC § 103 as being unpatentable over Grace in view of Martin. Grace has been discussed above. It discloses the case storage and delivery system including a cell having a tower with tilting shelves, and the discharge conveyor and control means, which are recited in lines 1 through 10 of this claim. Grace fails to disclose a palletizer that receives cases from the conveyor means and places them in full layers onto pallets in selected patterns, as is set forth in the last two lines of claim 12.

Martin discloses a palletizer 12 which receives cases of goods from a conveyor means 32 and places them in full layers on pallets 30 in selected patterns (see page 1, lines 24 through 46 and 82 through 100). In our opinion, it would have been obvious to utilize the palletizer of Martin at the end of the discharge conveyor C of Tanaka, explicit suggestion being found in Martin's teaching that one palletizing system can be used to

collect, collate and palletize articles from a plurality of sources in a selected succession (page 1, lines 37 through 71).

We have carefully considered the arguments set forth by the appellants in their Brief and Reply Brief. However, they have not persuaded us that the decision of the examiner was in error as to those rejections which we have sustained, or that the new rejections we have added under 37 CFR 1.196(b) should not be entered.

SUMMARY

The examiner's rejection of claims 10, 11, 15, 23 through 26, 28 and 29 under 35 USC § 112, second paragraph, is sustained.

The examiner's rejection of claims 12 through 14 and 27 under 35 USC § 112, second paragraph, is not sustained.

The examiner's rejection of claims 1 through 29 under 35 USC § 103 is not sustained.

The decision of the examiner therefore is affirmed-inpart.

Pursuant to 37 CFR 1.196(b), this panel of the Board of Patent Appeals and Interferences has made the following new rejections:

Claims 4 through 8, 10, 11, 22 through 26, 28 and 29 are rejected under 35 U.S.C. § 112, second paragraph.

Claims 16 through 18 are rejected under 35 USC, § 102(b) as being anticipated by Grace.

Claim 19 is rejected under 35 USC § 103 as being unpatentable over Grace in view of Tanaka.

Claim 12 is rejected under 35 USC § 103 as being unpatentable over Grace in view of Martin.

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date hereof. 37 CFR § 1.197.

With respect to the new rejections under 37 CFR §

1.196(b), should appellants elect the <u>alternate</u> option under that rule to prosecute further before the Primary Examiner by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision. In the event appellants elect this alternate option, in order to preserve the right to seek review under 35 USC §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellants elect prosecution before the examiner and this does not result in allowance of the application,

abandonment or a second appeal, this case should be returned to us for final action on the affirmed rejection, including any timely request for reconsideration thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

NEAL E. ABRAMS

Administrative Patent Judge)

CHARLES E. FRANKFORT

Administrative Patent Judge

BOARD OF PATENT

APPEALS AND INTERFERENCES

LAWRENCE J. STAAB

Administrative Patent Judge)

-22-

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